

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

FOUR NEW POCKET MICE.

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Collections recently made by Nelson and Goldman in Lower California contain a wealth of material in the genus *Perognathus* which has been submitted to the writer for study. The greater part of this material is referable to described forms, the known ranges of which in many cases are thus greatly extended. Three forms appear, however, which need to be characterized, two of them subspecies of *P. penicillatus* and one of *P. spinatus*. A fourth, also here described, is an apparently distinct species of the subgenus *Perognathus* secured by Mr. Goldman during some preliminary work on the east side of the Colorado River in Arizona and Sonora. The types of these forms are in the Biological Survey Collection.

***Perognathus bombycinus* sp. nov.**

Type from Yuma, Arizona, No. 136,123 U. S. National Museum, Biological Survey Collection. ♂ adult. March 18, 1905. E. A. Goldman.

Characters.—Size, color, and general appearance as in *P. p. bangsi*; skull with large, full mastoids and small, nearly square interparietal.

Color.—As in *P. p. bangsi*; upperparts pale vinaceous buff, lightly lined with dusky; ears edged with whitish, a well-developed white spot at anterior base; underparts white.

Skull.—A miniature of that of *P. amplus*; size as in *P. p. bangsi*; mastoids very large and full; parietal border of mastoid with a marked angle between interparietal and orbit; interparietal small and compressed, transverse dimension less than longitudinal; lower premolar larger than last molar.

Measurements.—Type and two specimens from northwestern Sonora, respectively: Total length, 134, 140, 131; tail vertebræ, 79, 82, 77; hind foot, 18.5, 18.5, 18.5. Skull of type: Occipito-nasal length, 20.4; basilar length, 14.5; mastoid width, 11.7; zygomatic width, 9.8; interorbital constriction, 4.4; nasals, 7; interparietal, 2.5 x 2.7; diastema, 5.1; maxillary toothrow, 3.

Remarks.—No external difference appears between this species and *P. p. bangsi*, but cranial distinctions are marked. No evidence of intergradation between the two forms is shown by any specimens yet examined. Speci-

mens from Needles, California, are typical of *bangsi* and in the comparatively short distance between that locality and Yuma no specimens of this group have been taken. Possibly the Colorado River effectively separates the ranges of the two species. *P. bombycinus* is represented by the type and two Sonoran specimens, one from Colonia Lerdo, and one from the Sonora Mesa near the Colorado River twenty miles south of the international boundary. An immature specimen from Trinidad Valley, northwest base San Pedro Martir Mountains, Lower California, may be provisionally referred to this species. Its color is rather dark but its badly shattered skull shows large mastoids.

***Perognathus penicillatus siccus* subsp. nov.**

Type from Cerralbo Island, Lower California, Mexico. No. 146,890 U. S. National Museum, Biological Survey Collection. ♂ adult. February 13, 1906. E. W. Nelson and E. A. Goldman.

Characters.—Size decidedly larger than in *P. p. arenarius*; very weak rump bristles rarely present; color dimorphic, buff phase slightly darker than in *arenarius*, gray phase decidedly different; skull large and heavy; mastoids rather large.

Color.—Buff phase: Practically as in *arenarius* but averaging slightly darker; general effect of upperparts buffy fawn; lateral line narrow, pinkish buff; underparts creamy. Gray phase: Similar to buff phase, but general effect of upperparts ranging from drab gray to broccoli brown.

Skull.—Similar to that of *arenarius* but decidedly larger and heavier; mastoids rather large; ascending branches of supraoccipital broad; similar to that of *ammophilus* but averaging larger with relatively large mastoids.

Measurements.—Average of ten adult topotypes: Total length, 175 (165–187); tail vertebrae, 98 (92–102); hind foot, 24.5 (23.5–26). Skulls of type and one topotype, respectively: Greatest length, 25.9; 26.9; basilar length, 17.7; 18.9; mastoid width, 13.8; 13.8; zygomatic width, 12.6; 13; interorbital constriction, 6.6; 6.6; nasals, 8.9; 9.6; interparietal, 7.2 x 3.6; 7.5 x 3.8; diastema, 6; 6.7; maxillary toothrow, 4; 3.9.

Remarks.—This form was found not only on Cerralbo Island but also at several localities on the neighboring end of the Peninsula. Specimens from the peninsular localities Tres Pachitas and Pescadero seem referable to it, while others from slightly farther north show intergradation with *arenarius*. A series from San Jorge, the type locality of *arenarius*, consists largely of intermediates between *siccus* and a smaller form of the central part of the Peninsula. The type of *arenarius*, however, is decidedly referable to the smaller form and the majority of the topotypes are nearer to it than to *siccus*.

Careful examination reveals a few very weak rump bristles in several specimens of *siccus*, though they are not found in other members of the *penicillatus* series.

***Perognathus penicillatus ammophilus* subsp. nov.**

Type from Margarita Island, Lower California, Mexico. No. 146,859 U. S. National Museum, Biological Survey Collection. ♂ adult. November 29, 1905. E. W. Nelson and E. A. Goldman.

Characters.—Size nearly equalling that of *P. p. siccus*; color paler; mastoids smaller. Size decidedly greater than in *P. p. arenarius*; color averaging paler; skull larger and heavier; mastoids relatively smaller.

Color.—Much as in *arenarius*, but averaging paler; paler than in *siccus*, and not exhibiting a gray phase. General effect of upperparts ecru drab; basal part of hairs of upperparts pale gray (Ridgway, Pl. II, No. 9) slightly tinged with fawn; no obvious lateral line; underparts creamy.

Skull.—Similar in general to that of *siccus*, but mastoids smaller; larger and heavier and with relatively smaller mastoids than that of *arenarius*.

Measurements.—Average of nine topotypes: Total length, 181 (171–188); tail vertebrae, 105 (100–113); hind foot, 24 (23.5–25.5). Skull of type: Greatest length, 26.1; basilar length, 18; mastoid width, 13.2; zygomatic width, 13.1; interorbital constriction, 6.6; nasals, 9.4; interparietal, 7.3 x 3.8; diastema, 6.4; maxillary toothrow, 3.8.

Remarks.—This form may be distinguished from both *arenarius* and *siccus* by its relatively small mastoids. Specimens from Magdalena Island, which lies near Margarita Island, do not approach this form in size or cranial characters, but, though rather pale, seem referable to *arenarius*, the color of which is subject to local variation.

***Perognathus spinatus magdalenae* subsp. nov.**

Type from Magdalena Island, Lower California, Mexico. No. 146,102 U. S. National Museum, Biological Survey Collection. ♀ adult. November 25, 1905. E. W. Nelson and E. A. Goldman.

Characters.—Size and color nearly as in *P. s. peninsulae*; mastoids smaller; rostrum slightly longer. Mastoids as in *P. s. margaritae*; size smaller; rostrum longer and broader.

Color.—Practically as in *peninsulae* and *margaritae*, but somewhat more deeply vinaceous; upperparts fawn color mixed with dusky chiefly disposed as fine lines; lateral line very narrow, fawn color; underparts creamy white.

Skull.—Size about as in *peninsulae*; mastoids smaller; rostrum slightly longer; mastoids as in *margaritae*; rostrum, nasals, and skull throughout more elongate.

Measurements.—Average of ten topotypes: Total length, 194 (188–200); tail vertebrae, 115 (110–122); hind foot, 24 (23.5–25). Skulls of type and one topotype, respectively: Greatest length, 26.4; 26.8; basilar length, 17.9; 18; mastoid width, 12.6; 12.7; zygomatic width, 12.8; 12.7; interorbital constriction, 6.9; 6.7; nasals, 10.5; 10.6; interparietal, 8.1 x 3.6; 7.5 x 3.3; diastema, 6; 6.5; maxillary toothrow, 4.3; 4.

Remarks.—This is a slight form which, but for its insularity, might be overlooked. It differs from *peninsulae* and agrees with *margaritae* in the small size of the mastoids. In the light of extensive material from the Peninsula, it appears that this form and also the previously described insular forms *P. s. margaritae* and *P. s. bryanti* should be considered only as subspecies, for, though the insular forms are constant in character, variation among mainland specimens is considerable.